Mid-State Amateur Radio Club

President: Bob Cammack N9IMP | Vice President: Randy Shake KC9LC | Secretary: Bill Brinkmann KA9ZMU

Treasurer: Mac McCarty NV9K | Repeater Trustee: Dave Julian WB9YIG | Activities Dir: Jack Parker NT9J

RACES Officer: Bob DeSpain WB5VZT | RACES Training: Mike Holland AA9PP | RACES Operations: Bill Brinkmann KA9ZMU

The Spark-Gap February 1993

FACE-LIFT FOR SPARK-GAP !

You have probably already noticed the new look of this newsletter. In an effort to improve the readability we have changed programs. The fonts in this program seems to be easier on the eyes although it too has some drawbacks. (The graphics used before are not compatible with this program.) We will continue to experiment with the new format until a format gets established. We welcome comments from club members about how to improve the newsletter in any way. Maybe someone in the club can come up with a new masthead (logo) that is compatible with this program. It uses: (Deluxe Paint, Gem Paint, Lotus 1-2-3, PC Paintbrush, or Splash).

TESTING IN FEBRUARY-MARCH

Feb 27 Indy Joe Cirillo NQ9R 291-3569
Mar 17 Indy Jack Reynolds KA9FIS 251-6000
Mar 20 Franklin Mac NV9K 736-6320

NEWS FROM OUT OF STATE

One of our club members, Ron Taylor N9PMG wrote to tell us that although he has moved to Florida he wants to continue membership in the club and hopes to continue getting club information and the Spark-Gap! He also would enjoy hearing from any of the members and invites all to get in touch with him if they happen to be in his area. His address is: Ron Taylor N9PMG, 1801 Imperial Blvd., Bartow, Fl. 33830. His phone is (813) 533-1991.

Also Larry Walters N9MKR is maintaining his membership and receiving the Spark-Gap in California! His address is Larry Walters N9MKR, PO Box 206, Fresno, Ca. 93708. Larry intends to visit Indiana when possible and meet with his many friends here.

ARE YOU INTO STATISTICS?

With the addition of the Amateur Callbook in the computer it was possible to come up with the following facts: There are 223 hams listed in Johnson County. 16% Are Novice, 37% are Tech, 20% are General, 14% are Advanced, and 11% are Extra. The club represents a total of 3029 total years. The average age of our club members is 40 years. The percentage breakdown of licenses for the club is: 04% Novice 12% Advanced 49% Tech 07% Extra 16% General.

And of course there are mistakes in the callbook as well! According to the listings, Vernie N9PUA was born in 1970. This would make him 16 years younger than his son Dennis KB9HPQ!

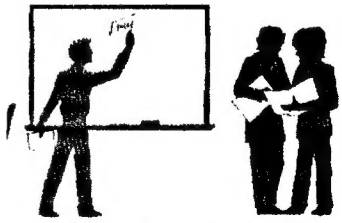
PROPOSED CLUB PROGRAMS

At the January club meeting members were asked to make suggestions for future programs. Some of their suggestions were: Formal traffic, Weather, Satellite, ATV, and MARS.

We will be continuing different coverages about weather, including training in reporting from the field for our weather nets. At the February meeting our program will be by Ben Woods, channel 8 news.

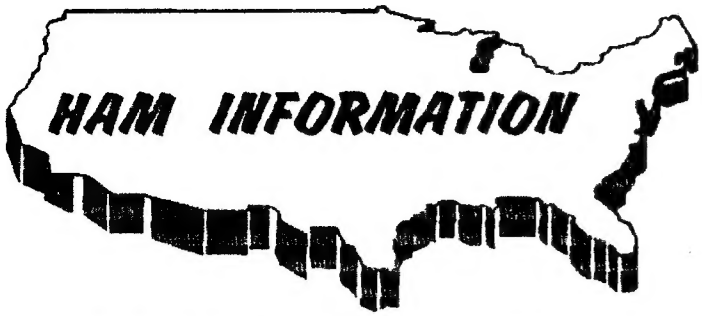
We are at present trying to find a qualified person in ATV to give a program. The other suggested programs will also be considered for later programs this year.

This month bring a friend !



Breakfast at 7:00

Meeting EOC at 8:00



FCC CALLSIGN UPDATE

District	Group A Extra	Group B Advanced	Group C Tech/Gen	Group D Novice
0	AA0KZ	KG0CI	N0UXC	KB0KVV
1	AA1EW	KD1LZ	N1NZA	KB1ANK
2	AA2MB	KF2MC	N2TFP	KB2PRF
3	AA3CU	KE3GE	N3NVF	KB3ALG
4	AC4YL	KQ4KY	++	KD4VFC
5	AB5JS	KJ5HK	++	KB5WQW
6	AB6PR	KN6EY	++	KD6QIP
7	AA7SX	KI7IV	++	KB7RLT
8	AA8JP	KF8YK	N8WMC	KB8OLY
9	AA9FP	KF9MQ	N9RSZ	KB9IGV

++All call signs in this group have been issued.

BILL PROTECTS AMATEURS

A telecommunications bill to free up government spectrum for commercial use, introduced into the new U.S. Congress, contains important protections for radio amateurs. The bill, S. 335, is a revised version of S. 218, which was not acted upon in the last Congress.

The ARRL suggested six possible amendments to 218 to mitigate the effect of releasing for private use government frequencies, some of which radio amateurs occupy on a shared, secondary, non-interference basis. Five of these six proposed amendments were incorporated into S. 335.

The changes made as a result of the ARRL initiative are as follows:

1. The bill finds that "a reassignment of federal government frequencies can be accomplished without adverse impact on Amateur Radio licensees that currently share allocations with federal government stations."

2. In determining whether a frequency reallocation is feasible, the Secretary of Commerce shall "seek to avoid excessive disruption of existing use of Federal Government frequencies by amateur radio licensees."

3. One basis to be used in determining whether commercial use of a frequency is feasible is to be "the extent to which commercial users can share the frequency with amateur radio licensees."

4. The advisory committee shall include representatives of "other users of the electromagnetic spectrum, including radio and television broadcast licensees, State and local public safety agencies, amateur radio licensees, and the aviation industry."

5. The President may, on certain grounds, substitute alternative frequencies or bands for those chosen. Among the grounds on which he may act is "The reassignment will disrupt the existing use of a Federal Government band of frequencies by amateur radio licensees."

6. Competitive bidding authority given the FCC under this Act "shall not extend to ... amateur operator services...."

These changes go a long way toward addressing amateurs' concerns about this legislation, and clearly establish that our needs must be considered as the bill proceeds through the Congress..

FCC: PROPOSED RULE CHANGES

1. Create a small new "weak signal" subband (222.0-222.15 Mhz) where repeaters would be prohibited.

2. Authorize frequency privileges for Novice class in the entire 222-225 Mhz band.

3. Allow Novice class to be licensees and control operators of repeaters in the 222-225 Mhz band and also in the 1270-1295 segment of the 1240-1300 Mhz band.

ticket which means, with the exception of CW, the only place I can work HF digital modes is 10 meters--and we all know that 10 meters is dead, don't we? Well, I have some news for you. 10 meters may be feeling a little weak but it sure isn't dead!

How about California, Oregon, Mexico, Brazil, Puerto Rico, and Costa Rica in one afternoon? With 50W? This is FUN. There are two operating modes that you will find most prevalent on 10 meters--packet (300 and 1200 baud) and AMTOR. The packet works just like it does on 2 meters, just goes a lot further. Lots of you have TNCs with HF capabilities, do you have them connected to your HF rig? The connection is simple, especially for modern transceivers.

If you have a newer rig, you'll use the accessory connector on the back of the radio. This connector provides access to the audio input and output, and to the PTT (Push To Talk) line. One big plus to connecting this way is that the audio output is unaffected by the volume control on the front panel. This means you can adjust the listening volume--even to all the way off--without affecting the input to the TNC. If you need help getting the radio and TNC together, you are certain to find someone with the same combo (rig/TNC) who has already put the sweat into figuring it out.

Where to Look. For those of us in Indiana, 10 meter propagation is mostly West and South. You will hear signals from California and Mexico with great regularity. There are a couple of frequencies that are very active.

28.103 On this frequency you will find the Torrance Gateway. This is a gateway/node located in Torrance, CA near Los Angeles. In addition to the 10 meter frequency, there is a 2 meter LAN on the other side in CA. You can work stations in CA through the gateway, or you can get a surprise like I did. I connected to the gateway and it put my call in the ''just heard'' list.

In a few moments, I was connected to by N9OUK. Now some of you might know that call, but I didn't. After a short QSO it turned out the Greg lives in Sardinia, IN--maybe 30 air miles from here! Later we talked on the MARC repeater. You can do just what Greg did, by looking at the just heard list (with the J command), you'll see who has recently connected. You can then try connecting to a station on the list via the gateway.

To connect to the gateway, use its alias: T0RNCE. Note that the second character is a zero, not the letter ''O''.

28.109 Several BBSs live on this frequency. While they do forwarding here, they also allow user connections.

WB7TLS This BBS is located in Tucson, AZ, and is very strong here in Indiana. Connections to its HF port give limited access. you can send mail or read your own--you cannot list bulletins. On your first connect be prepared to supply your information--name, home BBS, etc.--just like on 2 meters.

XE2NAA This BBS is located in Tuxtla, Chiapas, Mexico. That's way down near Guatemala. XE2NAA is not as strong as WB7TLS, but it is often very good copy here. This BBS has a large message base with lots of Spanish language messages (no surprise.)

PY1MET Located in Brazil, this station is less commonly heard, but it is there. Connect to it by digipeating through **XE2NAA**.

Well, that should give you a start, there is a lot of fun waiting for you on 10 meters with packet. Those of you with general class tickets or higher, listen on 20 meters in the evening, there is enough stuff to keep you busy all night!

Next month I want to talk to you about **AMTOR**, this is a great HF mode that can be found on 10 meters every day. I am interested in your comments about this column. You can reach me on packet at:

N1EWO@N0ARY.#NOCAL.CA.USA.NA

or the Internet at:jsloman@bix.com or through US mail: N1EWO PO BOX 636 Franklin, IN 46131

73 de N1EWO

WEATHER FACTS

The birth and death of a thunderstorm

Thunderstorms occur in unstable air *(air that continues to rise once it is set in motion)* which is laden with water vapor *(moisture)*. Once this air (*warmer and lighter than surrounding air)* is moving upward, clouds may form. Clouds are parcels of air that have been lifted high enough to condense the water vapor they contain into very small visible particles. These particles are too small and light to fall out as rain at first; however, they gradually grow in size until they are large enough to overcome the updrafts and finally fall as rain.

In the first stage of thunderstorm development, an updraft carries warm air up beyond condensation levels *(level where clouds form)* and where continued upward movement produces cumulus clouds. The updrafts develop in a region of gently converging surface winds in which the atmospheric pressure is slightly lower than in surrounding areas. As the updraft continues, air flows in through the cloud's sides in a process called entrainment, mixing with and feeding the updraft. The updraft may be further helped by a chimney effect produced by high winds at high altitudes, allowing more air to come in at the bottom as more escapes at the top of the thunderstorm.

But a developing thunderstorm also feeds on another source of energy. Once the cloud has formed, the phase-changes *(vapor to liquid)* of water result in a release of heat energy, which increases the momentum of the storm's vertical development. The rate at which this energy is released is directly related to the amount of gaseous water vapor converted to liquid water.

As the water vapor in the burgeoning cloud is raised to saturation levels, the air is cooled sufficiently to release solid and liquid particles of water, and rain and snow begain to fall within the cloud. The cloud tower rises beyond the level (10 to 15,000 ft) where fibrous streamers of frozen precipitation elements appear; this apparent ice phase is thought to be a condition of thunderstorm precipitation. The formation and precipitation of particles large enough and in sufficient quantity to fall against the updraft marks the beginning of the second, mature stage of the thunderstorm cell.

A thunderstorm's mature stage is marked by a transition in wind direction within the storm cells. The prevailing updraft which initiated the cloud's growth is joined by a downdraft caused by precipitation. The mature storm dominates the electrical field and atmospheric circulation for several miles around. Lightning - the discharge of electricity between positive and negative charges - occurs soon after precipitation begins, a clue to the relationship of thunderstorms electrification and formation of ice crystals and raindrops.

At maturity, the thunderstorm cloud is several miles across at its base and may tower to altitudes of 40,000 feet or more. The swift winds of the upper troposphere shred the cloud top into the familiar anvil form, visible in dry regions as lonely giants, or as part of a squall line.

On the ground directly beneath the storm system, the mature stage is initially felt as rain, which is soon joined by the strong downdraft. The downdraft spreads out from the cloud in gusting, divergent winds and brings a marked drop in temperature. Even where the rain has not reached the ground, the thunderstorm's nature can be recognized by this cold air stream flowing over the surface. This is nature's warning that the thunderstorm is in its most violent phase. It is in this phase that the thunderstorm unleashes its lightning, hail, heavy rain, high winds and - most destructive of all - the tornado! But even as it enters maturity, the storm has begun to die! The violent downdraft initially shares the circulation with the sustaining updraft, then strangles it.

As the updraft is cut off from its converging low-level winds, the storm loses its source of moisture and heat energy. Precipitation weakens, stops, and the cold downdraft ceases. And the thunderstorm, violent creature of an instant, spreads and dies.

Is this your last newsletter?

Considering the cost of postage it is necessary to limit future mailings to paid members! Please pay your 1993 dues or notify NV9K of your intentions to renew your membership!

FCC: NEW LICENSING SYSTEM

The FCC is planning a new licensing system for implementation in the first quarter of 1993. Plans are to move the mainframe, batch-oriented system to a local area network (LAN)based client-server architecture, capable of using both paper and electronic filings from the volunteer examiners. The new system will be tested later in 1993 and plans are to have the VEC'S file form 610 applications by computer by 1994.

Officials say they envision the new process will be similar to accessing a computer bulletin board with its menu of functions, including uploading of Form 610 information. This should greatly speed up issuance of Amateur Radio operator licenses!

So what's next? Possibly the issuance of a license direct from the test site!

1993 Novice Class

The first meeting of the 1993 Novice class took place on February 8th. Seventeen showed up to begin their career in ham radio. Two of the class members were there for a refresher course in code. (They intend to upgrade soon.) The others got their first taste of Morse code during the first half of the class period. All who attended were encouraged to attempt the code even if they only wanted to get the no-code tech license. Since many who get the no-code want to upgrade later, any association with code at this point will be to their advantage when they start to work on 13 WPM!

Several members of the club attended this first session to offer encouragement and show the variety of occupations involved in ham radio. Some of the members present were: NT9J, N1EWO, N9IMP, KF9LQ, KB9HSE, KB9DPM, KB9HPQ, N9PUA, and N9QBO. We appreciate these members taking the time to demonstrate genuine interest in the success of the class. Some of the class members may become club members at a later date!

Since all the class meetings are not on consecutive mondays the schedule is: Mon Feb 8, Mon Feb 15, Wed Feb 24, Wed Mar 3, Mon Mar 8, Mon Mar 15, Mon Mar 22, and Wed Mar 31.

HOMER IN THE NEWS

It seems that Homer, WB9OZZ, has been in the news again! In the Franklin Daily Journal on February 3rd an article appeared on the front page featuring Homer and outlining his long association with amateur radio. The article contained a large color picture of Homer (who incidentally, photographs very well) and captured the "pioneer" spirit of this veteran of the air waves. Homer summed up his preference for the "bug" by saying "It's like playing the piano; it's an accomplishment and something you worked hard to learn and you have pride in it - I guess that's as much of an incentive as anything."

The article was well written and accurate except for the reference to the "no-code novice" instead of the "no-code tech" license. Kevin Voight, the reporter who wrote the article, received his novice license at the age of twelve but didn't pursue it at that age. He did, however, remember enough to assist him in questioning Homer about the hobby. It was refreshing to see this "positive" article on the front page in a time when "negative" news dominates the media! The club is indeed fortunate to have this "charter member of amateur radio!" Congratulations, Homer!

FCC LEVIES BIG FINES

The FCC's Kingsville, Texas office, has issued a Notice of Apparent Liability to an amateur for $10,500.

Richard L. Whiten, WB2OTK was cited for "willful and malicious interfering transmissions" monitored by the FCC on 14314.7 KHz. Whiten was issued the NAL two days later. In his reply to the FCC he did not dispute making the transmissions, but denied that his signals constituted willful, malicious interference.

The FCC noted that Whiten already had received two previous NALs for the same rules violation. The FCC's "base amount" fine for willful interference is $7,000; in this case the fine was raised 50 per cent "in view of his repeated violations."

FCC NAL ISSUED

The FCC has issued a Notice of Apparent Liability (NAL) for $2,000 to William A. Moskowitz, KA3HSZ, of Plano, Texas.

In the NAL, the FCC said its Vero Beach, Florida office monitored Moskowitz, and during a 17 minute period observed him changing operating frequency twice, in the vicinity of 14.313 MHz, "in order to interfere with on-going communications."

"The violation was willful," the FCC said.

The FCC said "we are treating this as a minor violation," and that because Moskowitz is an individual, because of the nature of the violation, and because it is a first offense, the Commission set the fine at $2,000. The FCC's base forfeiture for malicious interference is $7,000.

Moskowitz has the usual 30 days to pay the fine or to appeal it.

HAMS USING 911

Amateurs with access to mobile and portable VHF/UHF radios using autopatch are responsible for an increasing number of 911 calls. Since systems at various repeaters differ, we should become familiar with local operation before we need to use a specific system. Information can be obtained from the repeater's control operator.

An emergency is any incident that involves immediate danger to life or property. This broad definition includes everything from heart attacks to house fires, shootings to chemical spills or drug overdoses to airplane crashes.

911 should be used for active not potential problems. While downed power lines are potential problems that might be an active hazard, a personal injury in a vehicle accident, a heart attack, a building, vehicle, field, or other fire are definitely active problems. One should use the regular police phone number, not 911, to report non-injury accidents, drunken drivers, etc.

REMINDER ! At present using 911 on our auto patch gets you only the sherriff dispatch!

WEATHER PROGRAM

As we approach the 1993 severe weather season in Indiana area hams will begin watching the skies for threatening weather. In an effort to help us become better weather spotters, the Mid-State amateur radio club will again have WISH TV meteorologist Ben Woods as our special guest at the February 20th meeting. Ben will be discussing the Sky Warn program and will be illustrating what weather spotters need to look for during severe weather.

Ben is no stranger to the Sky Warn program. As a National Weather Service forecaster in North Carolina, Ben worked closely with area hams during severe weather situations. In 1989 he traded his government job for TV. Ben joined the WISH-TV weather staff two years ago. As a staff meteorologist Ben not only forecasts the weekend weather but takes an active part in reporting enviornmental stories for Channel 8 News.

During severe weather outbreaks in central Indiana you'll find Ben riding shotgun in a WISH-TV Live truck chasing storms and bringing the results to the viewers at home. All club members are encouraged to bring a friend and experience an interesting morning with Ben Woods.

PACKET PRIMER

Series # 2

By Jeff Sloman N1EWO

WORK THE WORLD DIGITALLY!

First, I want to apologize for missing the last issue of the Spark Gap. My schedule has been crazy lately, and when the flu got added in, well, something had to give. Thanks to everyone who made the kind comments about the previous column, I am glad you found it useful.

This month, I want to write about something that has been giving me a lot of pleasure--HF digital operations. Now, I hold a technician class